

REMARKS

Reconsideration and allowance of this application are respectfully requested. Claims 1-3, 5-11, 13-15, 17 and 19 are pending in the application. The rejections are respectfully submitted to be obviated in view of the remarks presented herein.

As a preliminary matter, the Examiner has again not acknowledged on the PTOL-326 form that all certified copies of the priority documents have been received, *as box 1 has not been checked*. Applicant respectfully requests the Examiner to acknowledge receipt of all certified copies of the priority documents in the next Office communication **by checking all three boxes 12) a) and 1.**

Rejections under 35 U.S.C. § 103(a)

Claims 1, 2, 10, 17 and 19 have been rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Joung et al. (U.S. Patent Application Publication No. 2003/0131360; hereinafter "Joung '360") in view of Joung et al. (U.S. Patent No. 5,555,097; "Joung '097") and further in view of Saitoh et al. (U.S. Patent No. 6,839,851; "Saitoh"). The rejection is respectfully traversed.

Claim 1 is patentable because Joung '360 in view of Joung '097 and further in view of Saitoh fails to teach or suggest each and every element of the claim.

As discussed in the Amendment filed on March 2, 2009, Joung '360 discloses a stream source device that receives external signals and generates a packet stream. As shown in FIG. 2 of Joung '360, a digital broadcast receiving unit (121) receives a digital broadcast signal through an external antenna and transforms the received digital broadcast signal into a transmission

packet stream form to output to a multiplexer (125) (paragraphs [0044] and [0049]). A digital signal receiving unit (122) receives a transmission packet stream corresponding to digital video and audio signals transmitted from an external digital device, and then outputs the received transmission packet stream to the multiplexer (125) (paragraph [0050]). An analog signal receiving unit (123) receives analog video and audio signals transmitted from external analog equipment, and then transforms the received analog video and audio signals into a transmission packet stream to output to the multiplexer (125) (paragraph [0051]). The multiplexer (125) switches the transmission packet streams inputted from the digital broadcast receiving unit (121), the digital signal receiving unit (122), and an encoder (124) (which encodes the transmission packet stream output from the analog signal receiving unit (123)), in accordance with the control of a central processing unit (110), to select one of the transmission packets streams (paragraph [0052]). A transmission packet stream processing unit (130) processes the selected transmission packet stream and outputs the processed stream to a memory (140) (paragraph [0053]). A wireless transmitting/receiving unit (150) reads the transmission packet stream stored in the memory (140) and then transmits the read transmission packet stream wirelessly (paragraph [0054]).

Although Joung '360 discloses the digital signal receiving unit (122) and the analog signal receiving unit (123), Joung '360 is silent regarding any receiving of at least a progressive scanning image signal and an external interlaced scanning image signal and selection of the external interlaced scanning image signal or a converted interlaced scanning image signal. In particular, there is no teaching or suggestion in Joung '360 that its stream source device (100), which transmits an HD transmission packet stream wirelessly to a display device, would also convert the HD transmission packet stream into an SD transmission packet stream.

The Examiner concedes on pages 3-4 of the Office Action that “Joung ‘360 does not explicitly teach receives at least one of a progressive scanning image signal input from outside and an external interlaced scanning signal from outside, converts the progressive scanning image signal into an interlaced scanning image signal if the progressive scanning signal is received, and then converts one of the interlaced scanning signal and the external interlaced scanning image signal into a second TS; and wherein the TS converting unit comprises: a converter, which converts the progressive scanning image signal input from outside into the interlaced scanning image signal and outputs the interlaced scanning image signal as an output of the converter by separating fields from the progressive scanning image signal and transmitting the separated fields; and an encoding unit, which converts the external interlaced scanning image signal input from outside or the output of the [converter] into the second TS, and further comprises one switching unit operable to [receive] the external interlaced scanning image signal and the interlaced scanning image signal output from the converter and selects one of the external interlaced scanning image signal and the interlaced scanning image signal output from the converter to output to the encoding unit.”

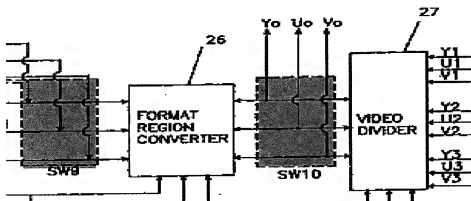
The Examiner, however, now relies upon Joung ‘097 to remedy the deficiencies of Joung ‘360. In particular, the Examiner refers to column 10, line 51 to column 11, line 7 and FIG. 2 of Joung ‘097 for its disclosure of a format conversion circuit (9) including a scanning format converter (25) that performs progressive/interlaced scanning conversion with respect to input video data.

The Examiner alleges on page 4 of the Office Action that Joung ‘097 teaches a converter which converts the progressive scanning image signal input from outside into the interlaced

scanning image signal and outputs the interlaced scanning image signal as an output of the converter by separating fields from the progressive scanning image signal and transmitting the separated fields.

Turning to Joung '097, although the scanning format converter (25) of the format conversion circuit (9) does perform a progressive to interlaced scanning conversion with respect to the input video data, such a conversion results in a reduction of band width (column 10, lines 51-55). Thus, the general disclosure of Joung '097 of converting the input video data from progressive to interlaced scanning *so as to reduce the band width* would necessarily fail to teach or suggest the particularly claimed conversion by separating fields from the progressive scanning image signal and transmitting the separated fields. Joung '097 is silent as to how conversion is performed by the conversion circuit (9), and therefore lacks any teaching or suggestion of converting *by separating fields from the progressive scanning image signal and transmitting the separated fields*.

As shown in FIG. 2 of Joung '097 (reproduced below), a switch SW9 pointed out by the Examiner is a switch *before* a format region converter (26) that converts progressive scanning data into interlaced scanning data.



Thus, input data in the Joung '097 is different than that which is claimed. That is, the SW9 disclosed in Joung '097 has progressive scanning data and original interlaced scanning data as inputs, wherein the switching unit of the present invention receives an interlaced scanning image signal (converted from a received progressive scanning image signal), and an original interlaced scanning image signal as inputs. Thus, the arguments made by the Examiner are not appropriate.

Also, the switch SW10 disclosed in Joung '097, which receives outputs of the format region converter (26) as inputs, has the function of switching over the outputs so as to be inputted to a video divider (27) or a post-processor (11) (see FIG. 1). Accordingly, Joung '097 does not teach or suggest the function of selecting one of the interlaced scanning data that is converted from progressive scanning data, and original interlaced scanning data. Thus, Joung '097 also does not teach or suggest "wherein the TS converting unit further comprises one switching unit operable to receive the external interlaced scanning image signal and the interlaced scanning image signal output from the converter and selects one of the external interlaced scanning image signal and the interlaced scanning image signal output from the converter to output to the encoding unit," as recited by claim 1.

Accordingly, neither Joung '360 nor Joung '097, alone or in combination, teaches or suggests, *inter alia*, "a converter, which converts the progressive scanning image signal input from outside into the interlaced scanning image signal and outputs the interlaced scanning image signal as an output of the converter by separating fields from the progressive scanning image signal and transmitting the separated fields; ... wherein the TS converting unit further comprises one switching unit operable to receive the external interlaced scanning image signal and the interlaced scanning image signal output from the converter and selects one of the

external interlaced scanning image signal and the interlaced scanning image signal output from the converter to output to the encoding unit,” as recited by claim 1 (emphasis added).

Also, as conceded by the Examiner on page 6 of the Office Action, neither Joung ‘360 nor Joung ‘097 disclose an encoding unit that converts the external interlaced scanning image signal input from outside or the output of the converter (the interlaced scanning image signal converted from the progressive scanning image signal input from outside) into the second TS. Accordingly, the Examiner has relied upon Saitoh for the teaching of a stream conversion circuit (407) (as shown in FIG. 4 of Saitoh) that converts a signal stream into a transport stream that can be transmitted through a digital signal bus (column 3, line 60 to column 4, line 26).

However, Saitoh also fails to teach or suggest “a converter, which converts the progressive scanning image signal input from outside into the interlaced scanning image signal and outputs the interlaced scanning image signal as an output of the converter **by separating fields from the progressive scanning image signal and transmitting the separated fields,**” as recited by claim 1 (emphasis added).

Therefore, the *combination* of Joung ‘360, Joung ‘097 and Saitoh, in view of the references’ above-described deficiencies of failing to disclose (1) a conversion of a progressive scanning type signal into an interlaced scanning type signal *by separating fields from the progressive scanning type signal and transmitting the separated fields*, and (2) a switching unit operable to receive the external interlaced scanning image signal and the interlaced scanning image signal output from the converter and selects one of the external interlaced scanning image signal and the interlaced scanning image signal output from the converter to output to the encoding unit, would thus fail to teach or suggest every element as recited by claim 1.

Claim 10 is a related independent method claim, and is patentably distinguished over Joung '360 in view of Joung '097 and further in view of Saitoh for analogous reasons. Claims 2, 17 and 19 are dependent claims which are also patentably distinguished over Joung '360 in view of Joung '097 and further in view of Saitoh at least in view of their dependencies as well as for their additionally recited elements.

Reconsideration and withdrawal of the rejection under 35 U.S.C. § 103(a) are respectfully requested.

Claims 3, 8 and 11 have been rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Joung '360 in view of Joung '097 in view of Saitoh and further in view of Levandowski (U.S. Patent No. 6,704,060). The rejection is respectfully traversed.

Claims 3, 8 and 11, which depend from claim 1 or claim 10, are patentable for at least the reasons submitted above for the respective base claims and because Levandowski fails to make up for the deficiencies of Joung '360 in view of Joung '097 and further in view of Saitoh. In Levandowski, although the triple decoder and CPU (216) as shown in FIG. 2 receives an SD transport stream, an HD/SD transport stream, and an ATSC transport stream, all of these streams are processed concurrently by the triple decoder and CPU (216) into respective MPEG or ATSC bit-streams (column 3, lines 10-29). One of the three bit-streams is decoded internally by the triple decoder and CPU (216) to provide a standard-definition television signal, NTSC video and a corresponding audio signal (column 3, lines 29-32). Another of the three transport streams is provided to an external high-definition/standard-definition (HD/SD) television signal decoder (220) (column 3, lines 33-35).

As is described and shown by Levandowski, the triple decoder and CPU (216) processes all of the input transport streams and *outputs all of the streams after processing*. Therefore, Levandowski does not teach or suggest any switching or selection occurring in the triple decoder and CPU (216), nor does Levandowski teach or suggest a switching or selection between an internal SD image signal and an external or input SD image signal.

Accordingly Levandowski also fails to teach or suggest, *inter alia*, “a converter, which converts the progressive scanning image signal input from outside into the interlaced scanning image signal and outputs the interlaced scanning image signal as an output of the converter by separating fields from the progressive scanning image signal and transmitting the separated fields; and an encoding unit, which converts the external interlaced scanning image signal input from outside or the output of the converter into the second TS, wherein the TS converting unit further comprises one switching unit operable to receive the external interlaced scanning image signal and the interlaced scanning image signal output from the converter and selects one of the external interlaced scanning image signal and the interlaced scanning image signal output from the converter to output to the encoding unit,” as recited by claim 1, and similarly fails to teach or suggest, *inter alia*, “receiving at least one of an external progressive scanning image signal and an external interlaced scanning image signal, converting the external progressive scanning image signal into an internal interlaced scanning image signal by separating fields from the progressive scanning image signal and transmitting the separated fields if the external progressive scanning image signal is received, one switching between one of the internal interlaced scanning image signal and the external interlaced scanning image signal; and converting one of the internal interlaced scanning image signal and the external interlaced scanning image signal into a second TS,” as recited by claim 10.

Thus, because none of the cited references teach or suggest at least the above-discussed elements, claims 1 and 10 are both patentably distinguished over the *combination of* Joung '360 in view of Joung '097 in view of Saitoh and further in view of Levandowski. Claims 3, 8 and 11, which depend from claim 1 or claim 10, are also patentably distinguished for at least the reasons submitted for their respective base claims as well as for their additionally recited elements.

Reconsideration and withdrawal of the rejection under 35 U.S.C. § 103(a) are respectfully requested.

Claims 5, 9 and 13 have been rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Joung '360 in view of Joung '097 and further in view of Saitoh and further in view of Akiyama (U.S. Patent No. 5,576,760). The rejection is respectfully traversed.

Claims 5, 9 and 13, which depend from claim 1 or claim 10, are patentable for at least the reasons submitted above for the respective base claims and because Akiyama fails to make up for the deficiencies of Joung '360 in view of Joung '097 and further in view of Saitoh.

Akiyama also fails to teach or suggest, *inter alia*, "a converter, which converts the progressive scanning image signal input from outside into the interlaced scanning image signal and outputs the interlaced scanning image signal as an output of the converter by separating fields from the progressive scanning image signal and transmitting the separated fields; and an encoding unit, which converts the external interlaced scanning image signal input from outside or the output of the converter into the second TS, wherein the TS converting unit further comprises one switching unit operable to receive the external interlaced scanning image signal and the interlaced scanning image signal output from the converter and selects one of the

external interlaced scanning image signal and the interlaced scanning image signal output from the converter to output to the encoding unit,” as recited by claim 1, and Akiyama similarly fails to teach or suggest, *inter alia*, “receiving at least one of an external progressive scanning image signal and an external interlaced scanning image signal, converting the external progressive scanning image signal into an internal interlaced scanning image signal by separating fields from the progressive scanning image signal and transmitting the separated fields if the external progressive scanning image signal is received, one switching between one of the internal interlaced scanning image signal and the external interlaced scanning image signal; and converting one of the internal interlaced scanning image signal and the external interlaced scanning image signal into a second TS,” as recited by claim 10.

Thus, because none of the cited references teach or suggest at least the above-discussed elements, claims 1 and 10 are both patentably distinguished over the *combination of* Joung ‘360 in view of Joung ‘097 in view of Saitoh and further in view of Akiyama. Claims 5, 9 and 13, which depend from claim 1 or claim 10, are also patentably distinguished for at least the reasons submitted for their respective base claims as well as for their additionally recited elements.

Reconsideration and withdrawal of the rejection under 35 U.S.C. § 103(a) are respectfully requested.

Claims 7 and 15 have been rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Joung ‘360 in view of Joung ‘097 in view of Saitoh in view of Akiyama and further in view of Margulis (U.S. Patent Application Publication No. 2001/0021998). The rejection is respectfully traversed.

Claims 7 and 15, which depend from claim 1 or claim 10, are patentable for at least the reasons submitted above for the respective base claims and because Margulis fails to make up for the deficiencies of Joung '360 in view of Joung '097 in view of Saitoh and in view of Akiyama.

In Margulis, a subsystem processor (518) is disclosed to receive the digital video from digitizer (516), the digital audio from the ADC (530), and the digital A/V on path (536) and combines all of these received signals to form one transport stream (paragraphs [0015], [0062], [0063] and [0069]). Furthermore, Margulis generally states that the subsystem processor (518) "may receive high-definition television (HDTV) video programming and responsively generate a standard definition television stream" (paragraph [0062]).

However, Margulis also fails to teach or suggest, *inter alia*, "a converter, which converts the progressive scanning image signal input from outside into the interlaced scanning image signal and outputs the interlaced scanning image signal as an output of the converter by separating fields from the progressive scanning image signal and transmitting the separated fields; and an encoding unit, which converts the external interlaced scanning image signal input from outside or the output of the converter into the second TS, wherein the TS converting unit further comprises one switching unit operable to receive the external interlaced scanning image signal and the interlaced scanning image signal output from the converter and selects one of the external interlaced scanning image signal and the interlaced scanning image signal output from the converter to output to the encoding unit," as recited by claim 1, and Margulis similarly fails to teach or suggest, *inter alia*, "receiving at least one of an external progressive scanning image signal and an external interlaced scanning image signal, converting the external progressive scanning image signal into an internal interlaced scanning image signal by separating fields from the progressive scanning image signal and transmitting the separated fields if the external

progressive scanning image signal is received, one switching between one of the internal interlaced scanning image signal and the external interlaced scanning image signal; and converting one of the internal interlaced scanning image signal and the external interlaced scanning image signal into a second TS,” as recited by claim 10.

Thus, because none of the cited references teach or suggest at least the above-discussed elements, claims 1 and 10 are both patentably distinguished over the *combination of* Joungh ‘360 in view of Joungh ‘097 in view of Saitoh in view of Akiyama and further in view of Margulis. Claims 7 and 15, which depend from claim 1 or claim 10, are also patentably distinguished for at least the reasons submitted for their respective base claims as well as for their additionally recited elements.

Reconsideration and withdrawal of the rejection under 35 U.S.C. § 103(a) are respectfully requested.

Claims 6 and 14 have been rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Joungh ‘360 in view of Joungh ‘097 in view of Saitoh in view of Levandowski and further in view of Margulis. The rejection is respectfully traversed.

As discussed above, claims 1 and 10 are patentably distinguished over Joungh ‘360 in view of Joungh ‘097 in view of Saitoh and further in view of Levandowski. As also discussed above, Margulis fails to make up for the deficiencies of Joungh ‘360 in view of Joungh ‘097 in view of Saitoh and further in view of Levandowski.

None of the cited references, either alone *or in combination*, teaches or suggests, *inter alia*, “a converter, which converts the progressive scanning image signal input from outside into the interlaced scanning image signal and outputs the interlaced scanning image signal as an

output of the converter *by separating fields from the progressive scanning image signal and transmitting the separated fields*; and an encoding unit, which converts the external interlaced scanning image signal input from outside or the output of the converter into the second TS, wherein the TS converting unit further comprises one switching unit operable to receive the external interlaced scanning image signal and the interlaced scanning image signal output from the converter and selects one of the external interlaced scanning image signal and the interlaced scanning image signal output from the converter to output to the encoding unit,” as recited by claim 1 (emphasis added). Similarly, the cited references, either alone *or in combination*, also fails to teach or suggest, *inter alia*, “receiving at least one of an external progressive scanning image signal and an external interlaced scanning image signal, converting the external progressive scanning image signal into an internal interlaced scanning image signal *by separating fields from the progressive scanning image signal and transmitting the separated fields* if the external progressive scanning image signal is received, one switching between one of the internal interlaced scanning image signal and the external interlaced scanning image signal; and converting one of the internal interlaced scanning image signal and the external interlaced scanning image signal into a second TS,” as recited by claim 10 (emphasis added).

Accordingly, claims 1 and 10 are both patentably distinguished over the *combination of* Joung ‘360 in view of Joung ‘097 in view of Saitoh in view of Levandowski and further in view of Margulis. Claims 6 and 14, which depend from claim 1 or claim 10, are also patentably distinguished for at least the reasons submitted for their respective base claims as well as for their additionally recited elements.

Reconsideration and withdrawal of the rejection under 35 U.S.C. § 103(a) are respectfully requested.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,


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CUSTOMER NUMBER

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